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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/663,901	09/17/2003	Nobuhiro Kakuhari	Q77557	2632

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SUGHRUE MION, PLLC  
2100 PENNSYLVANIA AVENUE, N.W.  
SUITE 800  
WASHINGTON, DC 20037

EXAMINER

TRAN, MAI T

ART UNIT	PAPER NUMBER
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2129

DATE MAILED: 04/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/663,901	KAKUHARI ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Mai T. Tran	2129	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 17 September 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☒ Claim(s) 3-18 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>04/06/2004</u> .  | 6) <input type="checkbox"/> Other: _____                                    |

### DETAILED ACTION

This Office Action is responsive to application 10/663901, filed September 17, 2003.

Claims 1-18 are presented for examination.

### PRIORITY

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### SPECIFICATION

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: "Crimping Connection Design System using Multilayer Feedforward Neural Networks".

The abstract of the disclosure is objected to because it contains reference characters, which represent design details of apparatus. Correction is required. See MPEP § 608.01(b).

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

The disclosure is objected to because of the following informalities:

- On page 1, line 24: "As shown in Figs. 2C and 2C". Typo error.
- On page 4, line 15, line 20, page 5, line 3, line 5, line 10, line 14, line 23, page 6, line 1: "the crimp height "1" is not consistent with the drawings of Figures 10A and 10B.

Art Unit: 2129

In the drawings, it is shown crimp height (I). The above-cited pages are a non-exhaustive list. Applicants are suggested to go through the entire specification to correct this error.

Appropriate correction is required.

### **CLAIM REJECTIONS - 35 USC § 102**

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims **1-2** are rejected under 35 U.S.C. 102(b) as being anticipated by "Neural Network based Process Control of Integrated Circuit Wire Bonding Machine", by Alireza Khotanzad et al, hereafter Khotanzad.

#### **Claim 1**

Khotanzad teaches a design support system for supporting a design of a connection between a conductor and a connector terminal, comprising:

an estimation unit which learns beforehand a relationship between known connection data pertaining to connection design and unknown connection data pertaining to the connection design for the known connection data (page 2228, paragraph V. Examiner asserts historical data as known connection data),

wherein the estimation unit estimates the unknown connection data pertaining to the known connection data in accordance with an input of the known connection data on the basis of the result of learning (page 2227, right column, lines 17-22, page 2228, paragraph V).

**Claim 2**

The design support system according to claim 1, wherein the estimation unit is constituted of a multilayer feedforward neural network in which layers formed of a plurality of neurons are coupled together in a direction in which the layers run from an input layer to an output layer by way of an intermediate layer (page 2227, paragraph III).

**ALLOWABLE SUBJECT MATTER**

Claims 3-18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

**CONCLUSION**

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

1. Yeomans, Michael A., U. S. Patent No. 5,101,651, disclosed an apparatus for determining the force imposed on a terminal during crimping thereof.
2. Strong et al, U. S. Patent No. 5,197,186, disclosed a method of determining the quality of a crimped electrical connection.

3. Gloe et al, U. S. Patent No. 5,271,254, disclosed crimped connector quality control method apparatus.
4. Gloe et al, U. S. Patent No. 5,275,032, disclosed a method and apparatus for controlling the crimp height of crimped electrical connections.
5. Strong et al, U. S. Patent No. 5,937,505, disclosed a method of evaluating a crimped electrical connection.
6. Inoue et al, U. S. Patent No. 5,669,257, disclosed a method of crimping terminal and apparatus for the same.
7. Inoue et al, U. S. Patent No. 5,727,409, disclosed a method of controlling a terminal crimping apparatus.
8. Maeda et al, U. S. Patent No. 5,887,469, disclosed a terminal crimping device.
9. Maeda et al, U. S. Patent No. 5,966,806, disclosed a control method of terminal crimping device.
10. Bucher et al, U. S. Patent No. 6,067,828, disclosed a crimping apparatus.
11. Meisser, Claudio, U. S. Patent No. 6,161,407, disclosed a process and apparatus for determination of the quality of a crimped connection.
12. Schreiner, Lothar, U. S. Patent No. 6,418,769, disclosed a method for quality assurance of crimp connections produced by a crimping device and crimping tool and crimping device therefor.
13. "A New Method to Investigate Electrical Conduction in Crimp Joints, Influence of the Compaction Ratio and Electrical Model", Rosazza Prin, G.; Courtin, T.; Boyer, L.;

Electrical Contacts, 2002. Proceedings of the Forty-Eighth IEEE Holm Conference on  
21-23 Oct. 2002 Pages: 246 - 251.


### **CORRESPONDENCE INFORMATION**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mai T. Tran whose telephone number is (571) 272-4238. The examiner can normally be reached on M-F 9:00am-- 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Vincent can be reached on 571-272-3080. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

M.T.T  
Patent Examiner  
Date: 3/30/2006

  
David Vincent  
Supervisory Patent Examiner  
Tech Center 2100